

IN THE CLAIMS

The status of each claim in the present application is listed below.

Claims 1-19: (Canceled).

20. (New) A method for the selective concentration of a macromolecule or of an agglomerate of molecules or of particles initially contained in a liquid sample, the method successively comprising:

providing of a liquid medium, wherein the liquid medium comprises:

a liquid sample comprising the macromolecule or the agglomerate to be concentrated; and

an interface layer, wherein the interface layer (a) is located at the surface of the liquid sample, (b) fixes the macromolecule or the agglomerate and (c) has a small volume compared to the volume of the liquid sample;

forming a stabilized dispersion of foam or emulsion type from a medium, by mechanical agitation of the medium or by injection, directly in the liquid sample, of gaseous or liquid capillary jets, to form an interstitial film constituting the foam or an interstitial medium constituting the emulsion; and

resorbing the dispersion to reform the interface layer by drainage of the interstitial film constituting the foam or by drainage of the interstitial medium constituting the emulsion, wherein the macromolecule or the agglomerate is concentrated in the interface layer.

21. (New) The method according to Claim 20, wherein forming the stabilized dispersion is carried out by mechanical agitation of the medium comprising the liquid sample and the interface layer.

22. (New) The method according to Claim 20, wherein the forming the stabilized dispersion is carried out by injection, directly into the liquid sample, of gaseous or liquid capillary jets.

23. (New) The method according to Claim 20, wherein the interface layer comprises at least one molecule which fixes the macromolecule or the agglomerate.

24. (New) The method according to Claim 23, wherein the molecule is capable of fixing the macromolecule or agglomerate by chemical affinity, electric or magnetic polarization, and/or ionization.

25. (New) The method according to Claim 20, wherein a macromolecule is selected from the group consisting of nucleic acids, proteins, antigens and antibodies.

26. (New) The method according to Claim 20, wherein an agglomerate of molecules is concentrated and is a prion.

27. (New) The method according to Claim 20, wherein an agglomerate of particles is selectively concentrated and is colloidal particles.

28. (New) The method according to Claim 20, wherein the macromolecule is DNA.

29. (New) The method according to Claim 23, wherein the macromolecule is DNA, and the molecule capable of fixing the DNA is functionalized with a probe to allow specific hybridization of the DNA.

30. (New) The method according to Claim 29, wherein the molecule capable of fixing the DNA is a lipid functionalized with a DNA probe complementary to the DNA.

31. (New) The method according to Claim 30, wherein the lipid is a biotinylated lipid comprising an avidin group or avidin derivative, onto which the complementary DNA is grafted by means of a biotinylated end incorporated into the DNA beforehand.

32. (New) The method according to Claim 30, wherein the lipid is a cationic lipid comprising at least one spermine group onto which the complementary DNA is adsorbed.

33. (New) A method for the purification of a macromolecule or of an agglomerate of molecules or particles initially comprised in a liquid sample, the method comprising
concentrating the macromolecule or the agglomerate within an interface layer using the method according to Claim 20,
eliminating the liquid sample depleted of the macromolecule or the agglomerate; and
recovering the interface layer comprising the macromolecule or the agglomerate.

34. (New) A method for the detection of a macromolecule or of an agglomerate of molecules or particles initially comprised in a liquid sample, the method comprising concentrating, within an interface layer, the macromolecule or the agglomerate using the method according to Claim 20, and detecting the macromolecule or the agglomerate within the interface layer.

35. (New) A method for the amplification of a macromolecule or of an agglomerate of molecules or of particles initially comprised in a liquid sample, the method comprising concentrating the macromolecule or the agglomerate within an interface layer using the method according to Claim 20, then replacing the liquid sample with a liquid comprising amplification agents, and then amplifying the macromolecule or the agglomerate by means of the agents.

36. (New) The method according to Claim 35, wherein the macromolecule is a DNA.

37. (New) The method according to Claim 35, wherein an agglomerate of molecules is amplified and is a prion.

38. (New) The method according to Claim 24, wherein the molecule is a surfactant molecule.